

Response to Board Motion on SIP

Board motion on 3 year stack tests – Propose that all the 3 year stack tests are moved to 1 year stack tests.

DAQ development of Stack Testing Standards

Where specific testing requirements are not identified by a federal standard, the DAQ monitoring requirements for major sources of emissions are developed to provide an assurance of compliance. The monitoring standard must make certain appropriate pollutants are monitored, must accurately verify the source is operating below emission limits and specify a frequency that is adequate to show continual compliance. Measurements and sampling procedures must include specific test methods and protocols to provide representative and accurate emission data.

Utah rule R307-165-2 requires emissions testing at least once every five years for sources with approval orders or sources listed in section IX, Part H of the SIP. Three years ago the DAQ established a minimum testing frequency of three years for major sources. By requiring testing every three years the DAQ Title V permitting engineers have emissions data to evaluate when processing Title V renewal permits. These Title V permits are reissued every five years. During the review the engineers have the responsibility to evaluate emissions data and increase the stack testing frequency if such an increase is warranted. If not for the need for emissions data for the permit renewal, a once every five year sampling frequency would be adequate for many sources.

DAQ NSR permitting engineers who develop the control plan also have the responsibility to review emissions data and determine if the testing requirements meet the data goals. If the requirements for sampling demonstrate the data goals are being met, the permitting engineers will retain the monitoring requirements in the control plan. In most instances the minimum test frequency of once every three years is adequate. However, there are instances where more frequent monitoring is appropriate. Factors that are considered for requiring more frequent monitoring include variable emission streams, combustion of a variety or mixture of fuels, batch processes, or a history of operating close to permitted emission limits or even exceeding those limits. For sources that do not meet these criteria, emissions testing once every three years is appropriate to ensure compliance. Additionally, parametric monitoring requirements provide continuous additional data to demonstrate a source is operating within expected operating parameters.

With a requirement to perform annual stack testing, the Section IX, Part H listed sources would be subject to an estimated \$465,000 per year in added stack testing expenses. More frequent stack testing will also result in increased work load for DAQ compliance staff to review the additional data and reports, such as stack testing protocols and stack testing results.

The DAQ believes that the stack testing frequencies developed by DAQ engineers and proposed for public comment on July 1, 2018 in the Utah State Implementation Plan Section IX, Part H are adequate for providing an assurance of compliance.

Motion on Kennecott Unit 4 - Amend H.2.h.i.D. This is the Kennecott Unit 4. That we actually remove H.2.h.i.E which is where it talks about the 8 months of the year and amend H.2.h.i.D to specify that natural gas is used 12 months of the year and not just 4 months of the year.

Motion on seasonal limits - Amend for public comment the six instances where we have a difference in seasonal limits. That the more stringent limit is held throughout the year and it's not the allowance during the 8 months of the year.

H.2.a.vi.A (page 10);

H.2.j.iii (page 33);

H.4.c.i.A,

H.4.c.ii.A, and H.4.c.iii.A (pages 45 and 46);

H.4.f.ii.A (page 49);

H.12.a.i and H.12.a.ii (page 56);

H.12.l.iii.A and H.12.l.iii.B (page 90).

DAQ SIP BACT Process and the Development of Seasonal Controls

In accordance with the implementation rule, the DAQ is required to develop a control plan as an element of the SIP for addressing the 24-hour PM_{2.5} serious nonattainment situation in the Salt Lake nonattainment area. The purpose of the control plan is to control pollutants that contribute to the pollutant (NAAQS) in non-attainment. The process the DAQ follows to develop a control plan follows the requirements in the implementation rule. The control plan ensures the implementation of BACT.

The control plan includes BACT limits for all major sources of PM_{2.5} and PM_{2.5} plan precursors in the nonattainment area. Each source submits a BACT evaluation for their operations. These evaluations require a detailed, written justification of each available control strategy, taking into account technological and economic feasibility, and including documentation to justify the elimination of any available controls. After the DAQ receives the BACT studies from the major sources, DAQ engineers evaluate the submitted information and make BACT determinations.

In the nonattainment area, all major sources operate throughout the year, and so the Division engineers evaluate the technical and economic feasibility of the available control technologies accordingly. The DAQ has used this standard in the development of all SIP control plans.

DAQ's attainment demonstration for this SIP is highly dependent on reducing emissions during the wintertime inversion season, when meteorological conditions are known to enhance formation of secondary PM_{2.5} and lead to elevated PM_{2.5}. DAQ based its modeling analysis upon the meteorology incurred during an episode transpiring from January 1-10, 2011. DAQ also used a seasonal-adjusted inventory in the model to represent emissions that are typically seen during the winter months. Although this SIP is not a seasonal SIP, DAQ is working to solve a wintertime problem.

As such, there are some common sense seasonal limits that are appropriate for this SIP. These seasonal limits don't follow the BACT process, but are appropriate for sources where seasonal limits can fit within the source operation and where the limit will provide additional protection of the air shed during the wintertime inversion season. Examples of seasonal limits include operational limits (i.e. limiting boiler

usage, limiting testing programs, limiting maintenance/waste management operations) and fuel limits (natural gas in lieu of coal).

There are no seasonal limits on the use of control technology determined through BACT. In other words, if a technology is determined to be BACT for a specific operation, this technology has to be applied year-round. Seasonal limits in this SIP are limited to the operating practices listed above, and are not technology-based.

Proposed Fuel Switch

In the case of Kennecott Boiler Unit #4, BACT for NO_x was determined based on the implementation of SCR for year round operation. Fuel switching to natural gas was not considered for BACT since the SIP (and past SIPs) prohibit coal as a fuel source during the winter inversion season. This is a common sense seasonal limit (not BACT related) that Kennecott accepted years ago. With natural gas as fuel for wintertime operation, the implementation of SCR is both technically and economically feasible. Since DAQ has not allowed seasonal limits on the use of control technology determined through BACT, SCR will also be required to control NO_x emissions from coal operations during the summertime.

The DAQ did not require additional controls on modes of operation that exclusively occur during the non-inversion season and allowed coal during summertime operation. The DAQ is not required nor is it seeking to solve summertime pollution problems with this SIP, even though the controls implemented through this SIP will benefit the summertime air shed.

The Board has motioned that fuel switching be considered BACT for Unit #4 at the Kennecott Power Plant, based on the fact that this unit is capable of burning both natural gas and coal. The DAQ does not agree it should be considered BACT for this SIP. The DAQ works to develop controls for the SIP that have a primary purpose of controlling emissions that contribute to the problem being solved. In this case, the BACT requirement to install SCR and the seasonal control prohibiting coal as a fuel source best address the problem. Fuel switching will have an extensive price tag, but will not improve the wintertime air shed.

DAQ believes that fuel switching would be an appropriate BACT determination under different circumstances. For instance, if the DAQ is required to develop a SIP to control seasonal emissions of ozone and additional NO_x reductions would be needed, fuel switching could provide those reductions. Alternatively, if Kennecott makes a modification to Unit #4, then a BACT analysis would be required as per R307-401-8 and fuel switching would be evaluated in that analysis.

SO₂ Controls

DAQ has determined that a limit for SO₂ under coal combustion is not required because this additional limit will not impact the air shed during the wintertime inversion season. Similar to DAQ's position on fuel switching, applying a BACT for SO₂ emissions from coal operations benefits summertime emissions; but will have no impact on the wintertime inversion season. Additional limits to control emissions that strictly occur in the summertime will not help in the attainment strategy for the serious PM_{2.5} SIP.

In response to Comment H-57.E in the memo for the Air Quality Board dated October 3, 2018, DAQ agreed that a BACT evaluation for SO₂ from coal operations was required. However, based on the arguments presented here, DAQ no longer believes that such a BACT evaluation for an operation that only occurs outside the wintertime inversion season is appropriate for the serious PM_{2.5} SIP.